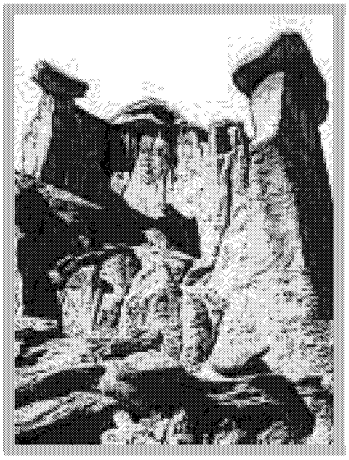
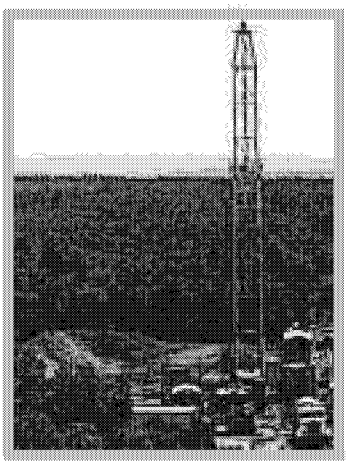
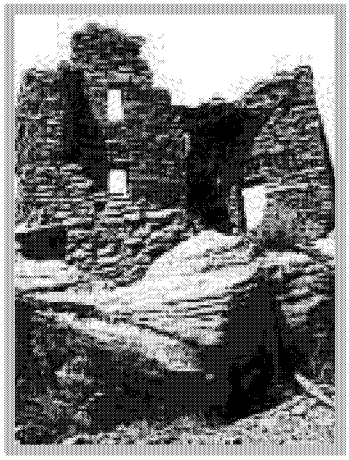
Farmington Proposed Resource Management Plan and Final Environmental Impact Statement

Volume I: Chapters 1–5







March 2003

U.S. Department of the Interior
Bureau of Land Management

Farmington Field Office
Farmington, New Mexico

BLM-NM-PL-03-014-1610

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington Field Office
1235 La Plata Highway, Suite A
Farmington, New Mexico 87401

IN REPLY REFER TO: 1610 (07200)

Dear Reader:

Enclosed is the Proposed Farmington Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS). The PRMP/FEIS outlines alternatives for managing all the uses of the public lands within the Farmington Field Office (FFO) boundaries. In addition, the management of the federal oil and gas resources within the New Mexico portion of the San Juan Basin is being considered.

The Draft RMP/EIS was made available for public review and comment from June 28, 2002 to September 26, 2002. Four public hearings were held to take formal oral comments. The BLM received a total of 174 written and 46 oral comments from 196 individuals. In addition to the original comments, there were over 12,000 form letters from at least 3 different organizations that were submitted to the FFO by e-mail, facsimile, or mail. Comment documents, either oral or written, generated more than 1,500 comments. Comments were assessed and utilized in making substantive changes in the document, which strengthened the PRMP/FEIS. Appendix P of the PRMP/FEIS contains summarized comments and responses.

Air quality issues received the greatest amount of public comment. Since release of the DRMP/EIS the FFO met with the NM Air Quality Bureau (NMAQB) and Environmental Protection Agency (EPA) to discuss air quality issues. Additional air quality analysis has been conducted and is described in the PRMP/FEIS. Air quality concerns in the planning area have resulted in the formation of the Four Corners Ozone Task Force. This cooperative effort of concerned stakeholders, including federal and state agencies, local governments, industry, environmental groups and the general public is focused on developing strategies to prevent further decline in air quality in the region. BLM has a representative on the task force steering committee and will work within its authority to implement appropriate mitigation measures recommended by NMAQB and the task force.

Some reviewers commented that the Farmington Field Office prepare a regional EIS encompassing all of the San Juan Basin, including those areas in Colorado analyzed by the Southern Ute Indian Reservation Final EIS for Oil and Gas Development (SUIT) and the Northern San Juan Basin Draft EIS. This approach was considered impractical for several reasons. The SUIT and Northern Basin projects are focused entirely on oil and gas, particularly Coal Bed Methane (CBM). The Farmington RMP is a comprehensive land use plan, which addresses all uses of the public lands in the FFO. Attempting to combine the three documents would have greatly complicated the analysis for each by bringing in different issues caused by independent jurisdictions and legal responsibilities across state, county, and reservation lines, as well as Federal (USFS, EPA, FWS) regional boundaries. CBM development issues (particularly those related to water disposal and potential for coal bed fires) at the edge of the San Juan Basin in Colorado are different from those of the central basin in New Mexico. The Draft Northern Basin EIS is scheduled for release in April 2003, while the SUIT was completed in July 2002. Data and pertinent analysis presented in the SUIT were used in the cumulative analysis for the Farmington PRMP/FEIS.

The preferred alternative (Alternative D) presented in the Farmington DRMP has been brought forward, with minor modification, as the Proposed RMP. This alternative allows for full field oil and gas development in an environmentally sound manner, while minimizing surface disturbance. The amount of public land contained in Areas of Critical Environmental Concern would increase by

28,793 acres. The area of important wildlife habitat protected by timing restrictions would increase by 288, 641 acres. The area limiting OHV use to existing roads and trails would increase from 248,108 acres to 1,353,301 acres. Changes to the coal program would allow leasing by application and would address the need for coal development in areas that were not analyzed in prior planning documents.

Copies of this document have been mailed to individuals who submitted original letters or provided oral comments at public hearings, as well as appropriate state and federal agencies and local and tribal governments. In addition, copies have been sent to those persons who received copies of the Draft and requested to be on the mailing list for the PRMP/FEIS. The PRMP/FEIS is available for review at the Bureau of Land Management, Farmington Field Office, 1235 La Plata Highway Suite A, Farmington, NM 87410. The document is also available on the internet by going to the Farmington Field Office web page at www.nm.blm.gov.

BLM Planning Regulations (43 CFR 1610.5-2) state that any person who participated in the planning process and has an interest which may be adversely affected may protest. A protest may only raise those issues which were submitted for the record during the planning process. The protest must be filed within 30 days of the date that the Environmental Protection Agency publishes the notice of receipt of the Final Environmental Impact Statement. All protests must be in writing and mailed to the following address:

Regular Mail:
Director (210)
Attention: Brenda Williams
P.O. Box 66538
Washington, D.C. 20035

Overnight Mail:
Director (210)
Attention: Brenda Williams
1620 L Street, N.W.
Suite 1075
Washington, D.C. 20036

E-mail protests will not be accepted. Faxed protests will be considered as potential valid protests provided (1) that the signed faxed letter is received by the Washington Office protest coordinator by the closing date of the protest period and (2) that the protesting party also provides the original letter by either regular or overnight mail postmarked by the close of the protest period. Please direct faxed protests to "BLM Protest Coordinator" at 202-452-5112. Please direct the follow-up letter to the appropriate address above.

The protest must contain:

a. The name, mailing address, telephone number, and interest of the person filing the protest.
b. A statement of the part or parts of the plan and the issue or issues being protested.
c. A copy of all documents addressing the issue(s) that the protesting party submitted during the planning process or a statement of the date they were discussed for the record.
d. A concise statement explaining why the protestor believes the State Director's decision is wrong.

Plan approval will be documented in a Record of Decision that will be made available to the public and mailed to all interested parties. Land use plan implementation usually involves on-the-ground management actions and permitted uses which require further analysis and decision making including public involvement and allows for appeals of decisions under applicable regulations. The Farmington Field Office plans to use the PRMP as the framework for pursuing collaborative management of natural resources on public lands in the San Juan Basin. If you have any questions regarding this document, please contact Jim Ramakka, RMP Project Manager, at 505-599-6307.

Sincerely,

Steve Henke
Farmington Field Office Manager

FARMINGTON RESOURCE MANAGEMENT PLAN

AND

FINAL ENVIRONMENTAL IMPACT STATEMENT

Draft ( ) Final (X)

The United States Department of the Interior, Bureau of Land Management

Type of Action: Administrative

Jurisdiction: San Juan, McKinley, Rio Arriba and Sandoval Counties in New Mexico

Abstract: The Proposed Resource Management Plan (PRMP) and final environmental impact statement (FEIS) analyzes four alternatives for managing the public lands and resources under the jurisdiction of the Farmington Field Office, New Mexico. The administration of federal oil and gas within the New Mexico portion of the San Juan Basin is also covered. The four alternatives are: (A) Continuation of Current Management (No Action), (B) Resource Production, (C) Resource Conservation, (D) Balanced Approach. Alternative D, the preferred alternative in the Draft RMP, was selected, with minor modification, as the Proposed RMP.

The impacts of the four alternatives are presented in Chapter 4. Comments received on the Draft RMP resulted in the inclusion of additional information and clarifications. Public and agency comments are summarized in Appendix P.

For further information, please call 505-599-6307, or contact:

RMP Project Manager
Bureau of Land Management
Farmington Field Office
1235 La Plata Highway, Suite A
Farmington, NM 87401-8754

Protests on the proposed plan must be filed within 30 days following the date that the Notice of Availability is published in the Federal Register.

Recommended:

Steve Henke
Field Office Manager
Farmington Field Office

Approved:

Linda S.C. Rundell
State Director
New Mexico State Office

Farmington Proposed Resource Management Plan and Final Environmental Impact Statement

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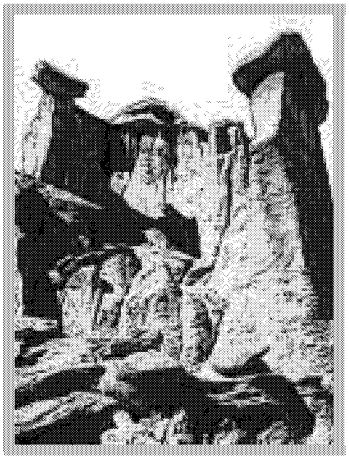

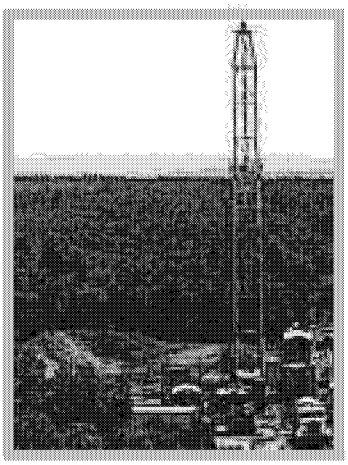

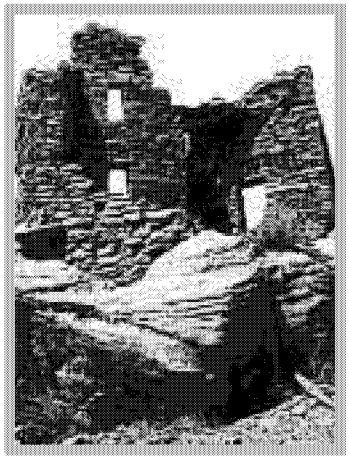

March 2003

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Farmington, New Mexico

BLM-NM-PL-03-014-1610

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ACRONYMS AND ABBREVIATIONS

AACL	Acceptable Ambient Concentration Level
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ACRV	air quality related values
AFO	BLM Albuquerque Field Office
APD	Application for Permits to Drill
AUM	animal unit month
ATV	all-terrain vehicle
BA	Biological Assessment
BACT	best available control technology
BHP	Broken Hills Proprietary Company, Limited
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BM II	Basketmaker II
BM III	Basketmaker III
BMP	Best Management Practice
BTU	British Thermal Units
CAA	Clean Air Act
CBM	coalbed methane
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CNF	Carson National Forest
CO	carbon monoxide
COA	Condition of Approval
CRMP	Cultural Resource Management Plan
CSU	Controlled Surface Use
CWA	Clean Water Act
DEIS	Draft EIS
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
ETZ	extraterritorial zone
FAR	functioning at risk
FFO	BLM Farmington Field Office
FLPMA	Federal Land Policy and Management Act
FY	fiscal year
GIS	Geographic Information System
GRTS	Glade Run Trail System
HABS	Historic American Buildings Survey
HAP	hazardous air pollutant
HMP	Habitat Management Plan
HUC	hydrologic unit code
$ISCST_3$	Industrial Source Complex Short Term
MEI	maximally-exposed individual
MLA	Mineral Leasing Act
MLE	most-likely exposure
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSA	Management Situation Analysis
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NAPI	Navajo Agricultural Products Industry
NATICH	National Air Toxics Information Clearinghouse
NEPA	National Environmental Policy Act
NF	non-functional
NHP	National Historical Park
NHPA	National Historic Preservation Act
NMAAQS	New Mexico Ambient Air Quality Standards
NMAC	New Mexico Administrative Code
NMAQB	New Mexico Air Quality Bureau
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NMEIB	New Mexico Environmental Improvement Board
NMOCD	New Mexico Oil Conservation Division
NM Tech	New Mexico Institute of Mining and Technology
NMWQCA	New Mexico Water Quality Control Act
NMWQCC	New Mexico Water Quality Control Commission
NO_2	nitrogen dioxide
NOI	Notice of Intent
NOx	nitrogen oxides
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	Noise Sensitive Area
NSO	No Surface Occupancy
NTL	Notice to Lessee
NWA	National Wilderness Area
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
OLM	ozone limiting method
ORV	off-road vehicle
P&A	plugging and abandonment
PAC	Protected Activity Center
PAH	polynuclear aromatic hydrocarbon
PFC	Proper Functioning Condition
PI	Pueblo I
PII	Pueblo II
PIII	Pueblo III
PIV	Pueblo IV
PIF	Partners in Flight
PILT	Payment in Lieu of Taxes
PL	Public Law
$PM_{2.5}$	particulate matter 2.5 microns or less
PM_{10}	particulate matter 10 microns or less
PNM	Public Service Company of New Mexico

PRIA	Public Rangelands Improvement Act
PRLA	Preference Right Lease Application
PSD	Prevention of Significant Deterioration
REL	Reference Exposure Level
RFDS	Reasonable Foreseeable Development Scenario
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
RNA	Research Natural Area
ROD	Record of Decision
ROI	Region of Influence
ROS	Recreation Opportunity Spectrum
ROW	right-of-way
R&PP	Recreation and Public Purposes
SDA	Specially Designated Area
SFNF	Santa Fe National Forest
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJCC	San Juan Coal Company
SMA	Special Management Area
SMCRA	Surface Mining Control and Reclamation Act
SO_2	sulfur dioxide
SOx	sulfur oxides
SRHP	State Register of Historic Places
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
STATSGO	State Soil Geographic Database
STC	Standard Terms and Conditions
SUIT	Southern Ute Indian Tribe
SWAT	Soil-Water Analysis Tool
SWWF	southwestern willow flycatcher
TCP	traditional cultural property
TDS	total dissolved solids
T&E	threatened and endangered
TL	Timing Limitation
TSP	total suspended particulates
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USBR	U.S. Bureau of Reclamation
USC	United States Code
USDA	U.S. Department of Agriculture
USDOI	U.S. Department of the Interior
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
VRM	Visual Resource Management
WA	Wilderness Area
WRCS	Western Regional Corridor Study
WSA	Wilderness Study Area
WUG	Western Utility Group

MEASUREMENTS

° F	degrees Fahrenheit
bbls	barrels
Bcf	billion cubic feet
Bcfd	billion cubic feet per day
Bscf	billion standard cubic feet
dB	decibels
dBA	A-weighted decibels
gm/HP-hr	gram per horsepower-hour
gpm	gallons per minute
HP	horsepower
km	kilometer
$kWh/m^2/day$	kilowatt hours per meter squared per day
L_{eq}	equivalent sound level
Mcf	thousand cubic feet
MMcf	million cubic feet
$\mu g/m^3$	micrograms per cubic meter
mg/L	milligrams per liter
mi	miles
mi^2	square miles
mmt	million metric tons
Mscf	million standard cubic feet
ppm	parts per million
scf	standard cubic feet
TPY	tons per year
Tscf	trillion standard cubic feet

SUMMARY

The Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) for the Farmington Field Office (FFO) of the Bureau of Land Management (BLM) and cooperating federal agencies (U.S. Forest Service [USFS] and U.S. Bureau of Reclamation [USBR]) identifies the projected development of federal oil and gas reserves within the San Juan Basin in New Mexico and the proposed management direction for administration of public lands in the area administered by the FFO for the next 20 years. Located in northwestern New Mexico, the FFO is directly responsible for managing approximately 1,415,300 acres of public land and 3,020,693 acres of federal minerals in San Juan, McKinley, Rio Arriba, and Sandoval Counties. The overall planning area encompasses 8,274,100 acres.

In 1988, the FFO approved an RMP following many of the same steps that are being done now. The RMP was amended six times between 1990 and 2000. Decisions from the RMP document (including amendments) that are still valid have been carried forward into this RMP/EIS and would continue to be implemented to the extent that they are not in conflict with the direction proposed in this RMP Revision. Changes in land use demands from lessees and from the public have precipitated a revision to the RMP to evaluate impacts that would result from major changes in land use management that were not analyzed in the previous RMP and amendments.

Preparation of this document was guided by BLM planning regulations issued under the authority of the Federal Land Policy and Management Act of 1976 and federal environmental policy under the National Environmental Policy Act (NEPA) of 1969. The RMP/EIS primarily focuses on five planning issues and the decisions needed to resolve them. The issues were identified through public scoping, interviews with members of the public in the FFO area, concerns raised to BLM staff in their interactions with public land users, and resource management concerns of the BLM and cooperating agencies. The five issues are: (1) Oil and Gas Leasing and Development; (2) Land Ownership Adjustments; (3) Off-Highway Vehicle Use; (4) Management of Specially Designated Areas; and (5) Coal Leasing Suitability Assessment.

Oil and gas leasing and development is an issue primarily because of the rate of development occurring in the planning area. The EIS for the RMP Amendment (BLM 1991a), under which oil and gas activities have been conducted to date, analyzed impacts for a projection of 4,465 wells drilled in the 20-year period 1991-2011. Changes in state spacing regulations and infill drilling have revised the estimate of projected new wells on federal surface to 9,970. The surface disturbance associated with this projected increase in development would exceed the level analyzed in prior NEPA analysis.

Land ownership adjustments are conducted by the BLM to consolidate administrative boundaries when it is in the public interest. The population of San Juan County has continued to grow since the original 1988 RMP was prepared. This growth has increased the demand to make land available for urban expansion or public purposes in the tri-city area of Farmington, Bloomfield, and Aztec. The RMP revision serves to re-examine the status of lands that may be available for disposal, as well as identify lands that the BLM would like to acquire if they are made available by willing sellers.

Federal regulations (43 CFR 8342.2) require that OHV designations be accomplished through the resource management planning process. As the population of San Juan County has increased, so has the amount of OHV use on public lands along with concerns that the OHV designations established in the 1988 RMP are no longer appropriate to protect public resources. An RMP revision is necessary to re-visit OHV designations with the objective of protecting sensitive surface resources while

providing opportunities for OHV based recreation on public lands.

Prior planning efforts established a variety of Specially Designated Areas (Areas of Critical Environmental Concern [ACEC], Research Natural Areas [RNA], Special Management Area [SMA]). As time progresses, new information uncovered by inventory and monitoring efforts as well as regulatory and policy changes can identify additional lands needing special management attention. For areas to be designated as ACEC, federal regulations (43 CFR 1610.7-2) indicate the RMP process as the vehicle for analyzing proposed ACEC designations.

Coal companies have expressed an interest in leasing coal in areas that have not been analyzed since previous plans. Section 3 (3A) of the Federal Coal Leasing Amendments Act of 1976 requires comprehensive land-use planning prior to coal leasing.

These planning issues were developed partly by considering the concerns and comments from people outside the BLM and the cooperating agencies. Comments were received both in formal public scoping meetings and through public interviews conducted for the BLM in the local communities from September 2000 to April 2001. Formal consultations with tribal governments and Endangered Species Act (ESA), Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) were conducted for this planning effort. Informal consultation and coordination was carried out with other federal and state agencies and with municipalities in the area.

The FFO received over 12,000 comment documents, either in letter format via mail, e-mail, and fax, or in oral comments at public hearings. Most of these comments were submitted in form letters that contained identical text. Of the comments submitted, over 1,500 separate ones received responses that are listed in Appendix P. In response to some of these comments, changes were made to the document, now called the Proposed RMP/Final EIS. The major changes involved additional air quality modeling and the addition of a Mitigation and Monitoring section at the end of Chapter 4.

To assist the agency decision-makers and the general public in choosing appropriate solutions to the planning issues, four alternatives or combinations of management options are proposed and their impacts evaluated. These four alternatives are identified in the RMP/EIS as Alternative A—Current Management, Alternative B—Resource Production focus, Alternative C—Resource Conservation focus, and Alternative D—a Balanced Approach, which has been carried forward as the Proposed Plan. The alternatives were limited to those that span a reasonable and implementable way of managing public lands and federal minerals, while offering a broad range of potential impacts to be evaluated. All assumptions on oil and gas production potential were based on the data and projections presented in a Reasonable Foreseeable Development Scenario (RFDS) prepared for the BLM by New Mexico Institute of Mining and Technology (Engler et al. 2001).

All of the alternatives were developed to meet the intent of BLM's multiple use mission while complying with applicable laws, regulations, and policies.

Alternative A constitutes the No Action Alternative, which describes the current management of the resources affected by the planning issues and evaluates the impacts if those management practices were to continue over the 20-year planning period. Alternative A provides a baseline for comparison of other alternatives. Under all of the alternatives, resources would continue to be managed according to the Continuing Management Guidance presented in Chapter 2. Many existing management decisions that were derived from previous planning documents are incorporated into Alternative A and some would be carried forward under all alternatives. Management under all alternatives would allow for land use decisions to be responsive to changing regulations and policies.

Where there is some flexibility in management decisions, resource specialists in the FFO proposed changes that are incorporated into the other three alternatives. The Resource Production Alternative, Alternative B, attempts to resolve the planning issues while placing primary emphasis on making public land and oil and gas resources available for use and development. It was developed to evaluate the impacts of the highest amount of new well locations by assuming that there would be no commingling and little co-location of oil and gas infrastructure. Based on the history of the industry in this region, this scenario is not likely to occur to the extreme analyzed in this document, but is used as a comparison to enable the full range of surface disturbance possible and its impact on other resources. Other changes in management direction evaluated under this alternative include changes to off-highway vehicle (OHV) use designations, an increase in potential disposal areas around the tri-cities of Farmington, Aztec, and Bloomfield, a few new specially designated areas to protect natural resources, and consideration of new areas of interest for coal mining.

The Resource Conservation Alternative, Alternative C, attempts to resolve the planning issues while placing primary emphasis on protecting natural and cultural resource values. The visual resources, wilderness, wildlife, cultural resources, paleontology, threatened and endangered species, and other resource conservation-oriented programs are the focus. The goal of this alternative is to permit extraction of the mineral resources while placing limits on development activities where protection of important natural and cultural resources would be likely to be affected. Under this alternative, acreage of public land within specially designated areas would increase and have more stringent limitations on surface-disturbing activities. OHV use, areas under consideration for coal mining, and land disposal would be the most limited under Alternative C.

The Proposed Plan, Alternative D, is designed to provide balanced management direction. The goal is to resolve the five issues by providing for a combination of resource uses that would protect important environmental values and sensitive resources while also allowing development of mineral resources that provide employment and tax revenues to the region. This alternative incorporates concepts proposed in both the resource conservation and hydrocarbon production alternatives, as well as encouraging the use of new technology to lessen conflicts between the emphasis areas.

Alternative D has been selected as the Proposed Plan that would guide the future management of public lands in the FFO area. After resolution of any protests received during the 30-day protest period, the decisions about the FEIS and proposed plan will be documented in a separate Record of Decision (ROD), which has to be approved by the BLM State Director. A summary of the potential impacts that have been identified during the evaluation of each alternative is presented in the following table. The impacts identified include both adverse and beneficial effects as a basis for comparing the alternatives and for considering their environmental consequences. It is important to recognize that the following table is a summary of the most significant potential impacts identified under each alternative to enable comparison of the alternatives by the reader. Other impacts are discussed in Chapter 4 that have not been included in this section. Most of these impacts would be lessened by compliance with BLM guidelines and policy, as well as through the implementation of the mitigation measures listed at the end of Chapter 4. Definitions of terms and more complete explanations of the impacts described in this summary are included in the narrative in Chapter 4 under each resource and alternative.

SUMMARY OF POTENTIAL IMPACTS BY ALTERNATIVE

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
Watersheds			
Surface disturbance, especially bare soil on unpaved roads, is a major contributor to changes in sediment yield and the management of natural and cultural resources in a watershed. Initial short-term surface disturbance is estimated to total 13,971 acres due to new wells, roads, and small pipelines, in addition to the surface disturbance resulting from construction of large pipelines and compressors, with 4,598 acres to be revegetated after construction. There would be approximately 358 miles of new oil and gas service roads.	Initial short-term surface disturbance is estimated to total 41,941 acres due to new wells, roads, and small pipelines, in addition to the surface disturbance resulting from construction of large pipelines and compressors, with 13,806 acres to be revegetated after construction. There would be approximately 1,075 miles of new oil and gas service roads.	Initial short-term surface disturbance is estimated to total 31,459 acres due to new wells, roads, and small pipelines, in addition to the surface disturbance resulting from construction of large pipelines and compressors, with 10,229 acres to be revegetated after construction. There would be approximately 797 miles of new oil and gas service roads.	Initial short-term surface disturbance is estimated to total 36,451 acres due to new wells, roads, and small pipelines, in addition to the surface disturbance resulting from construction of large pipelines and compressors, with 10,339 acres to be revegetated after construction. There would be approximately 805 miles of new oil and gas service roads.
Minerals			
Estimated future production of gas would be affected by the number of APDs approved and the amount of reserves developed. After consideration of limitations, there would be 4,910 billion standard cubic feet (Bscf) (44 percent of potential reserves) of gas estimated to be produced during the 20-year planning period. 73 wells would be directionally drilled and 17 would not be accessible due to no surface occupancy constraints. Approximately 138,000 acres of federal minerals would be available for consideration for coal leasing after preliminary application of the unsuit-	After consideration of limitations, there would be 11,158 Bscf (100 percent of potential reserves) of gas estimated to be produced during the 20-year planning period. 84 wells would be directionally drilled and 17 would not be accessible due to no surface occupancy constraints. Approximately 378,875 acres of federal minerals would be available for consideration for coal leasing after preliminary application of the unsuitability criteria. Potential conflicts between oil and gas and coal operators are possible south of the high development oil and gas area.	After consideration of limitations, there would be 11,002 Bscf (98.6 percent of potential reserves) of gas estimated to be produced during the 20-year planning period. 195 wells would be directionally drilled and 134 would not be accessible due to no surface occupancy constraints. Approximately 378,275 acres of federal minerals would be available for consideration for coal leasing after preliminary application of the unsuitability criteria. Potential conflicts between oil and gas and coal operators are possible south of the high development oil and gas area.	After consideration of limitations, there would be 11,125 Bscf (99.7 percent of potential reserves) of gas estimated to be produced during the 20-year planning period. 145 wells would be directionally drilled and 28 would not be accessible due to no surface occupancy constraints. Approximately 378,275 acres of federal minerals would be available for consideration for coal leasing after preliminary application of the unsuitability criteria. Potential conflicts between oil and gas and coal operators are possible south of the high development oil and gas area.

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
ability criteria. Potential conflicts between oil and gas and coal operators are possible south of the high development oil and gas area.			
Soils			
The impact to soils would be an increase in soil erosion due to the increase in bare ground and unpaved roads. The amount of short-term disturbance of soils is described above under **Watersheds**. When accounting for the reclamation of plugged and abandoned (P&A) wells and roads, and the installation of large pipelines and compressors, the net long-term surface disturbance over 20 years would be over 900 acres. There would be the greatest potential for damage to soils from OHVs under this alternative due to the large acreage of open designations. Localized protection of soils would be anticipated in specially designated areas that limit OHV access and surface disturbing activities.	The impact to soils would be an increase in soil erosion due to the increase in bare ground and unpaved roads. The amount of short-term disturbance of soils is described above under **Watersheds**. When accounting for the reclamation of P&A wells and roads, and the installation of large pipelines and compressors, the net long-term surface disturbance over 20 years would be almost 24,800 acres. There would be much less potential for damage to soils from OHVs under this alternative due to the majority of the FFO being under limited designations.	The impact to soils would be an increase in soil erosion due to the increase in bare ground and unpaved roads. The amount of short-term disturbance of soils is described above under **Watersheds**. When accounting for the reclamation of P&A wells and roads, and the installation of large pipelines and compressors, the net long-term surface disturbance over 20 years would be over 18,000 acres. There would be much less potential for damage to soils from OHVs under this alternative due to the majority of the FFO being under limited designations.	The impact to soils would be an increase in soil erosion due to the increase in bare ground and unpaved roads. The amount of short-term disturbance of soils is described above under **Watersheds**. When accounting for the reclamation of P&A wells and roads, and the installation of large pipelines and compressors, the net long-term surface disturbance over 20 years would be over 18,500 acres. There would be much less potential for damage to soils from OHVs under this alternative due to the majority of the FFO being under limited designations.
Water			
Water usage for well drilling is estimated to be approximately 3,100 acre-feet over the planning period. Impacts to surface water quality from mineral development would result from increased erosion and sedimentation from surface disturbance during construction and bare soils on wells and roads. Localized long-term impacts from increased peak runoff rates,	Water usage for well drilling is estimated to be approximately 9,300 acre-feet over the planning period. Impacts to surface water quality from mineral development would result under this alternative from increased erosion and sedimentation from surface disturbance during construction and bare soils on wells and roads. Localized long-term impacts from increased peak	Water usage for well drilling is estimated to be approximately 6,900 acre-feet over the planning period. Impacts to surface water quality from mineral development would result from increased erosion and sedimentation from surface disturbance during construction and bare soils on wells and roads. Localized long-term impacts from increased peak runoff rates,	Water usage for well drilling is estimated to be approximately 7,000 acre-feet over the planning period. Impacts to surface water quality from mineral development would result from increased erosion and sedimentation from surface disturbance during construction and bare soils on wells and roads. Localized long-term impacts from increased peak runoff rates,

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erosion, and sedimentation are likely to result from additional mineral infrastructure and open OHV access.	runoff rates, erosion, and sedimentation are likely to result from additional mineral infrastructure. Impacts would be greatest under this alternative. The limitation of most OHV access would result in localized benefits to water resources. OHV limitations would provide a beneficial impact to water resources by reducing surface disturbance.	erosion, and sedimentation are likely to result from additional mineral infrastructure. Impacts would be greater than Alternative A, but less than Alternative B or D. The limitation of most OHV access would result in localized benefits to water resources. OHV limitations would provide a beneficial impact to water resources by reducing surface disturbance.	erosion, and sedimentation are likely to result from additional mineral infrastructure. Impacts would be greater than Alternative C and A, but less than Alternative B. The limitation of most OHV access would result in localized benefits to water resources. OHV limitations would provide a beneficial impact to water resources by reducing surface disturbance.
Air Quality			
Near-field ambient pollutant impacts due to gas production would be low, as the amount of development proposed for the alternative is the least of all alternatives. The net change in emissions (tons per year) from compressors by year 20 would be—volatile organic compounds (VOC): 744.1; carbon monoxide (CO): 12,621.7; nitrogen oxides (NOx): 13,102.7; particulate matter (PM_{10}): 5.3. The impact of greatest concern from OHV use would be the intense vehicular usage in concentrated areas adjacent to residential areas or roadways. State standards would be achieved. BLM will work with the New Mexico Air Quality Bureau (NMAQB) to ensure standards are met.	Near-field ambient pollutant impacts due to gas production would be higher than under Alternative A, as the amount of development proposed assumes maximum production. The net increase in emissions (tons per year) from compressors by year 20 would be—VOC: 2,771.5; CO: 60,462.3; NOx: 62,160.7; PM_{10}: 26.2. The State has primacy for air quality and issues permits for the larger compressors. It is possible that the 24-hour state standard for nitrogen dioxide (NO_2) could be reached or exceeded if all of the compressors identified in the RFDS were installed. FFO will participate on the steering committee of the Four Corners Regional Task Force with the NMAQB to monitor air quality and identify appropriate mitigation measures that would minimize projected impacts to air quality. State standards would be achieved. BLM will work with the NMAQB to ensure standards are met BLM will only	Near-field ambient pollutant impacts due to gas production would be higher than under Alternative A, as the amount of development proposed assumes close to maximum production. The net increase in emissions from compressors by year 20 would be 69 percent of that described under Alternative B. The State has primacy for air quality and issues permits for the larger compressors. It is possible that the 24-hour state standard for NO_2 could be reached or exceeded if all of the compressors identified in the RFDS were installed. FFO will participate on the steering committee of the Four Corners Regional Task Force with the NMAQB to monitor air quality and identify appropriate mitigation measures that would minimize projected impacts to air quality. State standards would be achieved. BLM will work with the NMAQB to ensure standards are met. BLM will only approve projects that are	Near-field ambient pollutant impacts due to gas production would be higher than under Alternative A, as the amount of development proposed assumes almost maximum production. The net increase in emissions from compressors by year 20 would be 70 percent of that described for Alternative B. The State has primacy for air quality and issues permits for the larger compressors. It is possible that the 24-hour state standard for NO_2 could be reached or exceeded if all of the compressors identified in the RFDS were installed. FFO will participate on the steering committee of the Four Corners Regional Task Force with the NMAQB to monitor air quality and identify appropriate mitigation measures that would minimize projected impacts to air quality. State standards would be achieved. BLM will work with the NMAQB to ensure standards are met. BLM will only approve projects that are

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
	approve projects that are in compliance with applicable air quality regulations. Limitations on OHV use would provide beneficial impacts in concentrated areas adjacent to residential areas or roadways to residential areas or roadways.	in compliance with applicable air quality regulations. Limitations on OHV use would provide beneficial impacts in concentrated areas adjacent to residential areas or roadways.	in compliance with applicable air quality regulations. Limitations on OHV use would provide beneficial impacts in concentrated areas adjacent to residential areas or roadways.
Upland Vegetation			
Long-term impacts to the piñon-juniper woodlands and Great Basin Desert Scrub plant communities within the high development area would result from construction of oil and gas facilities. Revegetation would not replace these plant communities during the 20-year planning period. With the least amount of surface disturbance predicted, this alternative would affect the fewest acres of vegetation (13,971 acres short-term, 9,373 long-term). The disposal of land could have negative effects on upland vegetation if new land disturbance activities were to take place after transfer. Land acquisition has the potential to have a beneficial impact on plant communities that would be placed under FFO management. The continuation of open OHV use in most of the FFO area would result in the continued degradation of upland plant communities.	Long-term impacts to the piñon-juniper woodlands and Great Basin Desert Scrub plant communities within the high development area would result from the highest acreage (41,941 acres short-term, 28,135 acres long-term) of surface disturbance for construction of oil and gas facilities. Revegetation would not replace these plant communities during the 20-year planning period. Emphasis on weed management plans and reestablishment of native vegetation would provide positive benefits. This alternative has the highest acreage that would be available for disposal, which could have negative effects on upland vegetation if new land disturbance activities were to take place after transfer. Land acquisition has the potential to have a beneficial impact on plant communities that would be placed under FFO management. The limitations on open OHV use in most of the FFO area would result in beneficial impacts to upland plant communities.	Long-term impacts to the piñon-juniper woodlands and Great Basin Desert Scrub plant communities within the high development area would result from the surface disturbance (31,549 acres short-term, 21,320 acres long-term) for construction of oil and gas facilities. Revegetation would not replace these plant communities during the 20-year planning period. Emphasis on weed management plans and reestablishment of native vegetation would provide positive benefits. Land disposal could have negative effects on upland vegetation if new land disturbance activities were to take place after transfer. This alternative has the highest acreage of land to be acquired and the greatest potential for beneficial impacts on plant communities that would be placed under FFO management. The limitations on open OHV use in most of the FFO area would result in beneficial impacts to upland plant communities.	Long-term impacts to the piñon-juniper woodlands and Great Basin Desert Scrub plant communities within the high development area would result from the surface disturbance (36,451 acres short-term, 26,112 acres long-term) for construction of oil and gas facilities. Revegetation would not replace these plant communities during the 20-year planning period. Emphasis on weed management plans and reestablishment of native vegetation would provide positive benefits. Land disposal could have negative effects on upland vegetation if new land disturbance activities were to take place after transfer. This alternative has close to the highest acreage of land to be acquired and a high potential for beneficial impacts on plant communities that would be placed under FFO management. The limitations on open OHV use in most of the FFO area would result in beneficial impacts to upland plant communities.

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Riparian Areas and Wetlands			
Beneficial impacts on riparian areas and wetlands would be derived from Controlled Surface Use (CSU) constraints on oil and gas development within approximately 2,500 acres of public land in the River Tracts SMA. However, small isolated patches of riparian vegetation that do not meet the criteria to be designated as Riparian Areas could be affected by oil and gas development through surface disturbance, construction, and removal of vegetation. Land acquisition has the potential to have a beneficial impact on riparian plant communities, especially if land were acquired in support of the riparian resource program along the rivers and washes on FFO land. Designated FFO riparian areas would not be included in land being considered for disposal. The continuation of limited OHV designations would be beneficial to riparian resources within River Tract Habitat Management Plan (HMP) lands. The continuation of the open OHV designation in other riparian areas could degrade riparian resources.	The proposed Ephemeral Wash Riparian Area on 7,459 acres of public land would provide additional protection to riparian and wetland areas. There would be more emphasis on acquiring inholdings within the River Tracts Riparian Area than there would be under Alternative A, which would provide additional protection to those riparian areas by applying the more stringent management prescriptions. CSU constraints in over 236,000 acres in SDAs would assist managers in avoiding riparian and wetland areas because oil and gas operations can be moved in order to minimize impacts to riparian areas and wetlands. The limitation on OHV access within designated Riparian Areas of the River Tract HMPs and the addition of the Ephemeral Wash Specially Designated Areas containing approximately 7,000 acres of public land would have a beneficial impact by protecting them from damage caused by OHV travel. The continuation of OHV traffic in dry washes could degrade small isolated patches of riparian vegetation that do not meet the criteria to be designated as Riparian Areas.	NSO constraints on oil and gas development within the 100-year floodplain of Ephemeral Wash Riparian Area and CSU constraints within most of the 10,000 acres of public land in the River Tracts and Ephemeral Wash Riparian Areas would reduce impacts to riparian and wetland areas. Impacts would be less than under Alternative B and more than under Alternative A. Land acquisition has the potential to have a beneficial impact on riparian plant communities, especially if land were acquired in support of the riparian resource program along the rivers and washes on FFO land. Designated FFO riparian areas would not be included in land being considered for disposal. The limitation on OHV access within designated Riparian Areas and the expansion of these areas to include an additional 7,000 acres of public land would have a beneficial impact by protecting them from damage caused by OHV travel. The elimination of OHV traffic in dry washes could benefit riparian vegetation outside designated Riparian Areas, as would the limited OHV designations in most of the FFO.	NSO constraints on oil and gas development within the 100-year floodplain of Ephemeral Wash Riparian Area and CSU constraints within most of the 10,000 acres of public land in the River Tracts and Ephemeral Wash Riparian Areas would reduce impacts to riparian and wetland areas. Impacts would be less than under Alternative B and more than under Alternatives A and C. Land acquisition has the potential to have a beneficial impact on riparian plant communities, especially if land were acquired in support of the riparian resource program along the rivers and washes on FFO land. Designated FFO riparian areas would not be included in land being considered for disposal. The limitation on OHV access within designated Riparian Areas of the River Tract HMPs and the addition of the Ephemeral Wash Specially Designated Areas containing approximately 7,000 acres of public land would have a beneficial impact by protecting them from damage caused by OHV travel. The continuation of OHV traffic in dry washes could degrade small isolated patches of riparian vegetation that do not meet the criteria to be designated as Riparian Areas.

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Special Status Species			
The implementation of Alternative A is not likely to adversely affect any federally listed species or designated critical habitats. FFO has established special management, monitoring, and survey protocols for all listed species. All listed plants are protected in RNAs or ACECs where OHV use is controlled and oil and gas development stipulations are established. Listed avian species are protected in ACECs, SMAs, or designated suitable habitat. Listed fish species in the San Juan River benefit from riparian management outlined in the Farmington Riparian and Aquatic Habitat Management Plan (August 2000). As new species are listed in the future, FFO would conduct necessary surveys, initiate monitoring programs, establish protective stipulations, and coordinate and consult with USFWS to ensure that development authorized by FFO will comply with the ESA.	The implementation of Alternative B is not likely to adversely affect any federally listed species or designated critical habitats. FFO has established special management, monitoring, and survey protocols for all listed species. All listed plants are protected in RNAs or ACECs where OHV use is controlled and oil and gas development stipulations are established. Listed avian species are protected in ACECs, SMAs, or designated suitable habitat. Listed fish species in the San Juan River benefit from riparian management outlined in the Farmington Riparian and Aquatic Habitat Management Plan (August 2000). As new species are listed in the future, FFO would conduct necessary surveys, initiate monitoring programs, establish protective stipulations, and coordinate and consult with USFWS to ensure that development authorized by FFO will comply with the ESA.	The implementation of Alternative C is not likely to adversely affect any federally listed species or designated critical habitats. FFO has established special management, monitoring, and survey protocols for all listed species. All listed plants are protected in RNAs or ACECs where OHV use is controlled and oil and gas development stipulations are established. Listed avian species are protected in ACECs, SMAs, or designated suitable habitat areas. Listed fish species in the San Juan River benefit from riparian management outlined in the Farmington Riparian and Aquatic Habitat Management Plan (August 2000). As new species are listed in the future, FFO would conduct necessary surveys, initiate monitoring programs, establish protective stipulations, and coordinate and consult with USFWS to ensure that development authorized by FFO will comply with the ESA.	The implementation of Alternative D is not likely to adversely affect any federally listed species or designated critical habitats. FFO has established special management, monitoring, and survey protocols for all listed species. All listed plants are protected in RNAs or ACECs where OHV use is controlled and oil and gas development stipulations are established. Listed avian species are protected in ACECs, SMAs, or designated suitable habitat. Listed fish species in the San Juan River benefit from riparian management outlined in the Farmington Riparian and Aquatic Habitat Management Plan (August 2000). As new species are listed in the future, FFO would conduct necessary surveys, initiate monitoring programs, establish protective stipulations, and coordinate and consult with USFWS to ensure that development authorized by FFO will comply with the ESA.
Fisheries and Wildlife			
No significant impacts to fisheries have been identified. Habitat fragmentation and road traffic from existing oil and gas wells, pipelines, and roads, added to projected construction would result in the potential for negative impacts to wildlife in the best locations of wildlife population. Within proposed wildlife areas, an additional 44 miles of road	No significant impacts to fisheries have been identified. Habitat fragmentation and road traffic from existing oil and gas wells, pipelines, and roads, added to projected construction would result in the potential for negative impacts to wildlife in the best locations of wildlife population. Within proposed wildlife areas, an additional 296 miles of road	No significant impacts to fisheries have been identified. Habitat fragmentation and road traffic from existing oil and gas wells, pipelines, and roads, added to projected construction would result in the potential for negative impacts to wildlife in the best locations of wildlife population. Within proposed wildlife areas, an additional 219 miles of road	No significant impacts to fisheries have been identified. Habitat fragmentation and road traffic from existing oil and gas wells, pipelines, and roads, added to projected construction would result in the potential for negative impacts to wildlife in the best locations of wildlife population. Within proposed wildlife areas, an additional 220 miles of road

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and 1,812 acres of long-term habitat disturbance is projected in addition to the existing 18,956 acres already disturbed. Habitat fragmentation would be the least under Alternative A but would still be likely to reduce the carrying capacity of the habitat for mule deer, elk, pronghorn antelope, and breeding birds. Projected functional habitat loss is projected to be 7,046 acres within 660 feet of roads. The open OHV designation throughout most of the FFO area would have a negative effect on wildlife by allowing continued disturbance and habitat loss.	and 11,546 acres of long-term habitat disturbance is projected in addition to the existing 18,956 acres already disturbed. Habitat fragmentation would be the greatest under Alternative B and would be likely to reduce the carrying capacity of the habitat for mule deer, elk, pronghorn antelope, and breeding birds. Projected functional habitat loss is projected to be 40,320 acres within 660 feet of roads The limited OHV designation throughout most of the FFO area would have a positive effect on wildlife by restricting cross-country travel in wildlife habitat areas.	and 8,569 acres of long-term habitat disturbance is projected in addition to the existing 18,956 acres already disturbed. Habitat fragmentation would be less than under Alternative B, but would still be likely to reduce the carrying capacity of the habitat for mule deer, elk, pronghorn antelope, and breeding birds. Projected functional habitat loss is projected to be 35,200 acres within 660 feet of roads The limited OHV designation throughout most of the FFO area would have a positive effect on wildlife by restricting cross-country travel in wildlife habitat areas.	and 8,569 acres of long-term habitat disturbance is projected in addition to the existing 18,956 acres already disturbed. Habitat fragmentation would be similar to that under Alternative C and would be likely to reduce the carrying capacity of the habitat for mule deer, elk, pronghorn antelope, and breeding birds. Projected functional habitat loss is projected to be 35,200 acres within 660 feet of roads The limited OHV designation throughout most of the FFO area would have a positive effect on wildlife by restricting cross-country travel in wildlife habitat areas.
Wilderness			
No direct impacts are anticipated to the Wilderness Areas (WA) from any of the alternatives. Direct impacts would only occur if oil and gas development or coal mining were allowed within the Wilderness Study Areas (WSA) in the planning area. This would most likely affect the Ah-shi-sle-pah WSA if the Preference Right Lease Applications (PRLA) currently being adjudicated would be approved for coal mining. Acquisition of inholdings within the Bisti/De-na-zin WA would benefit the area by consolidating land use management.	No direct impacts are anticipated to the WAs from any of the alternatives. Direct impacts would only occur if oil and gas development or coal mining were allowed within the WSAs in the planning area. This would most likely affect the Ah-shi-sle-pah WSA if the PRLAs currently being adjudicated would be approved for coal mining. Acquisition of inholdings within the Bisti/De-na-zin WA would benefit the area by consolidating land use management.	No direct impacts are anticipated to the WAs from any of the alternatives. Direct impacts would only occur if oil and gas development or coal mining were allowed within the WSAs in the planning area. This would most likely affect the Ah-shi-sle-pah WSA if the PRLAs currently being adjudicated would be approved for coal mining. Acquisition of inholdings within the Bisti/De-na-zin WA would benefit the area by consolidating land use management.	No direct impacts are anticipated to the WAs from any of the alternatives. Direct impacts would only occur if oil and gas development or coal mining were allowed within the WSAs in the planning area. This would most likely affect the Ah-shi-sle-pah WSA if the PRLAs currently being adjudicated would be approved for coal mining. Acquisition of inholdings within the Bisti/De-na-zin WA would benefit the area by consolidating land use management.

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Rangeland			
Impacts on rangeland from added oil and gas development would have a minimal effect on current livestock grazing when comparing the acreage of forage (13,971 acres short-term, 9,373 long-term) that would be removed from grazing due to construction of oil and gas facilities to the acreage available in the FFO. Ongoing conflicts between oil and gas operators and grazing permittees may continue. Other continuing areas of potential conflict between oil and gas operations and grazing permittees would include livestock inhibiting revegetation of disturbed areas, truck traffic disturbing or harming livestock, and the spread of noxious weeds by oil and gas vehicles that compete with desired rangeland plants. Land disposal could change the grazing authorization in the FFO area. Most of the land available for disposal would be in the area south of US Highway 550. Unlimited OHV access would continue to damage forage in most of the FFO area, leading to loss of topsoil, a reduction of soil quality, a downward trend of forage, and conflicts over OHV traffic and vandalism of rangeland improvements and fences. There would be approximately 10,000 acres in 22 specially designated areas that would limit grazing.	Impacts on rangeland from added oil and gas development would have a minimal effect on current livestock grazing when comparing the acreage of forage (41,941 acres short-term, 28,135 acres long-term) that would be removed from grazing due to construction of oil and gas facilities to the acreage available in the FFO. Ongoing conflicts between oil and gas operators and grazing permittees may continue. Other continuing areas of potential conflict between oil and gas operations and grazing permittees would include livestock inhibiting revegetation of disturbed areas, truck traffic disturbing or harming livestock, and the spread of noxious weeds by oil and gas vehicles that compete with desired rangeland plants. Land disposal could change the grazing authorization in the FFO area in the area south of US Highway 550 and around the tri-cities where 28 allotments could be affected. This would increase the potential for conflicts over livestock exclusion from urbanizing areas. Limited OHV access would benefit forage and limit damage to rangeland improvements in most of the FFO area. There would be over 9,300 acres in 23 specially designated areas that would limit grazing.	Impacts on rangeland from added oil and gas development would have a minimal effect on current livestock grazing when comparing the acreage of forage (31,549 acres short-term, 21,320 acres long-term) that would be removed from grazing due to construction of oil and gas facilities to the acreage available in the FFO. Ongoing conflicts between oil and gas operators and grazing permittees may continue. Other continuing areas of potential conflict between oil and gas operations and grazing permittees would include livestock inhibiting revegetation of disturbed areas, truck traffic disturbing or harming livestock, and the spread of noxious weeds by oil and gas vehicles that compete with desired rangeland plants. Land disposal could change the grazing authorization in the FFO area. Most of the land available for disposal would be in the area south of US Highway 550. Limited OHV access would benefit forage and limit damage to rangeland improvements in most of the FFO area. There would be approximately 64,500 acres in 67 specially designated areas that would limit grazing.	Impacts on rangeland from added oil and gas development would have a minimal effect on current livestock grazing when comparing the acreage of forage (36,451 acres short-term, 26,112 acres long-term) that would be removed from grazing due to construction of oil and gas facilities to the acreage available in the FFO. Ongoing conflicts between oil and gas operators and grazing permittees may continue. Other continuing areas of potential conflict between oil and gas operations and grazing permittees would include livestock inhibiting revegetation of disturbed areas, truck traffic disturbing or harming livestock, and the spread of noxious weeds by oil and gas vehicles that compete with desired rangeland plants. Land disposal could change the grazing authorization in the FFO area. Most of the land available for disposal would be in the area south of US Highway 550. Limited OHV access would benefit forage and limit damage to rangeland improvements in most of the FFO area. There would be approximately 25,700 acres in 31 specially designated areas that would limit grazing.

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Lands and Access			
Changes in the volume of industry-related traffic due to projected oil and gas development is primarily an access issue. It is estimated that there would be a -16 percent change in trips at the end of the 20-year planning period under Alternative A. There would be a projected increase in the amount of land in split estate in the FFO by about 264,800 acres or from 11 to 15 percent from land disposal. BLM would retain any necessary rights-of-way (ROW) during land disposal transactions. Acquisition of inholdings in specially designated areas would benefit land use management. Conflicts among OHV users, private property owners, and ranchers arising from unlimited cross-country vehicular access would continue under ongoing OHV policy.	It is estimated that there would be a +8 percent change in trips at the end of the 20-year planning period under Alternative B. There would be a projected increase in the amount of land in split estate in the FFO by about 329,300 acres, or about 44 percent, from land disposal. BLM would retain any necessary ROWs during land disposal transactions. Acquisition of inholdings in specially designated areas would benefit land use management. Conflicts among OHV users, private property owners, and ranchers would be reduced under the proposed limitations to OHV access.	It is estimated that there would be a -3 percent change in trips at the end of the 20-year planning period under Alternative C. There would be a projected increase in the amount of land in split estate in the FFO by about 14,000 acres from land disposal. BLM would retain any necessary ROWs during land disposal transactions. Acquisition of inholdings in specially designated areas would benefit land use management. Conflicts among OHV users, private property owners, and ranchers would be reduced under the proposed limitations to OHV access.	It is estimated that there would be a -2 percent change in trips at the end of the 20-year planning period under Alternative D. There would be a projected increase in the amount of land in split estate in the FFO similar to Alternative B from land disposal. BLM would retain any necessary ROWs during land disposal transactions. Acquisition of inholdings in specially designated areas would benefit land use management. Conflicts among OHV users, private property owners, and ranchers would be reduced under the proposed limitations to OHV access.
Visual Resources			
There would be a trend toward degradation of visual resources under each alternative due to the additional surface disturbance from oil and gas development and potential additional coal mining. The impact to visual resources would be the least in the high development area under Alternative A because the least development is projected. Acquisition of inholdings within specially designated areas could add	There would be a trend toward degradation of visual resources under each alternative due to the additional surface disturbance from oil and gas development and potential additional coal mining. The impact to visual resources would be the greatest in the high development area under Alternative B because the most well locations would be developed. Acquisition of inholdings within specially designated areas could add	There would be a trend toward degradation of visual resources under each alternative due to the additional surface disturbance from oil and gas development and potential additional coal mining. The impact to visual resources would be less than Alternative B and more than Alternative A. Acquisition of inholdings within the highest acreage of specially designated areas could add higher protection of visual qualities through the applica-	There would be a trend toward degradation of visual resources under each alternative due to the additional surface disturbance from oil and gas development and potential additional coal mining. The impact to visual resources would be less than Alternative B and more than Alternative A. Acquisition of inholdings within more specially designated areas could add higher protection of visual qualities through the application of VRM

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
higher protection of visual qualities through the application of Visual Resource Management (VRM) designations in some areas. OHV use would continue to contribute to localized alterations, mostly around the tri-city area, further degrading areas with deteriorated visual value. The emphasis on land disposal under this alternative would put additional land at risk for future development without VRM constraints throughout the FFO area.	higher protection of visual qualities through the application of VRM designations in some areas. Limiting OHV use to roads and trails and concentrating cross-country use into very localized areas would limit potential scarring and visual degradation. The emphasis on land disposal under this alternative would put additional land at risk for future development without VRM constraints throughout the FFO area.	tion of VRM designations in some areas. Limiting OHV use to roads and trails and concentrating cross-country use into very localized areas would limit potential scarring and visual degradation. The emphasis on land acquisition under this alternative would benefit visual resources.	designations in some areas. Limiting OHV use to roads and trails and concentrating cross-country use into very localized areas would limit potential scarring and visual degradation. The emphasis on land acquisition under this alternative would benefit visual resources.
Cultural Resources			
Impacts to cultural resources would be caused by surface disturbance from construction that has the potential to adversely affect cultural resources, including archaeological sites, historic properties, and traditional cultural properties (TCP) that previously have not been disturbed, especially in the areas with the highest density of sites and surface disturbance. Inventories are required prior to all surface disturbing activities. It is projected that 736 sites would be affected and would require mitigation or avoidance before oil and gas facilities could be constructed. The addition of over 350 miles of new roads could result in increased vandalism from increased public access. The open OHV access would adversely affect cultural resources by cross-country travel. There are 84 specially designated	Impacts to cultural resources would be caused by surface disturbance from construction that has the potential to adversely affect cultural resources, including archaeological sites, historic properties, and TCPs that previously have not been disturbed, especially in the areas with the highest density of sites and surface disturbance. Inventories are required prior to all surface disturbing activities. It is projected that 2,211 sites would be affected and would require mitigation or avoidance before oil and gas facilities could be constructed. The addition of almost 1,100 miles of new roads could result in increased vandalism from increased public access. The limited OHV access would have a beneficial effect on cultural resources by providing protection from cross-country travel.	Impacts to cultural resources would be caused by surface disturbance from construction that has the potential to adversely affect cultural resources, including archaeological sites, historic properties, and TCPs that previously have not been disturbed, especially in the areas with the highest density of sites and surface disturbance. Inventories are required prior to all surface disturbing activities. It is projected that 1,658 sites would be affected and would require mitigation or avoidance before oil and gas facilities could be constructed. The addition of almost 800 miles of new roads could result in increased vandalism from increased public access. The limited OHV access would have a beneficial effect on cultural resources by providing protection from cross-country travel.	Impacts to cultural resources would be caused by surface disturbance from construction that has the potential to adversely affect cultural resources, including archaeological sites, historic properties, and TCPs that previously have not been disturbed, especially in the areas with the highest density of sites and surface disturbance. Inventories are required prior to all surface disturbing activities. It is projected that 1,896 sites would be affected and would require mitigation or avoidance before oil and gas facilities could be constructed. The addition of over 800 miles of new roads could result in increased vandalism from increased public access. The limited OHV access would have a beneficial effect on cultural resources by providing protection from cross-country travel.

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
areas covering over 40,400 acres of public land in the FFO that would protect cultural resources.	There are 84 specially designated areas covering over 40,400 acres of public land in the FFO that would protect cultural resources.	There are 79 specially designated areas covering over 89,000 acres of public land in the FFO that would protect cultural resources.	There are 79 specially designated areas covering over 78,700 acres of public land in the FFO that would protect cultural resources.
Paleontology			
Impacts to paleontological resources would be measured by physical damage to fossil-bearing formations through excavation or surface disturbance. Alternative A would involve the least acreage of surface disturbance and have the least potential for impacts to paleontological resources due to the lower projected well numbers and the current management prescriptions within the 4 SDAs The open OHV access would continue to cause damage to paleontological formations through directly wearing down rock formations or causing accelerated erosion under Alternative A. Prior to coal mining, the required documentation would add to the body of knowledge about paleontological resources in the San Juan Basin, while permanently removing fossils from their original context.	Alternative B would involve the most acreage of surface disturbance and have the greatest potential for impacts to paleontological resources due to the highest projected well numbers. CSU constraints would limit oil and gas development impacts to paleontological resources within 9 SDAs, resulting in more protection than would occur under the 4 areas in Alternative A. The limited OHV access would protect paleontological formations from damage. The additional acreage of specially designated fossil areas would result in additional protection to known and important paleontological resources. Prior to coal mining, the required documentation would add to the body of knowledge about paleontological resources in the San Juan Basin, while permanently removing the fossils from their original context.	Alternative C would involve less acreage of surface disturbance and have fewer potential impacts to paleontological resources than under Alternative B, but more than under Alternative A. CSU constraints would limit oil and gas development impacts to paleontological resources within 9 SDAs, resulting in more protection than would occur under the 4 areas in Alternative A. The limited OHV access would protect paleontological formations from damage. The additional acreage of specially designated fossil areas would result in additional protection to known and important paleontological resources. Prior to coal mining, the required documentation would add to the body of knowledge about paleontological resources in the San Juan Basin, while permanently removing fossils from their original context.	Alternative D would involve less acreage of surface disturbance and therefore result in fewer impacts to paleontological resources than under Alternative B, but more than under Alternatives A and C. CSU constraints would limit oil and gas development impacts to paleontological resources within 9 SDAs, resulting in more protection than would occur under the 4 areas in Alternative A. The limited OHV access would protect paleontological formations from damage. The additional acreage of specially designated fossil areas would result in additional protection to known and important paleontological resources. Prior to coal mining, the required documentation would add to the body of knowledge about paleontological resources in the San Juan Basin, while permanently removing fossils from their original context.
Recreation			
Potential exists for moderate impacts on the quality of recreation opportunities from oil and gas development, particularly due to noise from compressors. It is likely that some recreational users would be annoyed by	Potential exists for widespread impacts on the quality of recreation opportunities from oil and gas development, particularly due to noise from compressors. It is likely that some recreational users would be annoyed by	Potential exists for widespread impacts on the quality of dispersed recreation opportunities from oil and gas development, particularly due to noise from compressors. The noise Notice to Lessee (NTL) would provide	Impacts on recreation would be similar to Alternative C. The noise NTL would provide somewhat less extensive protection against noise for recreational sites, but impacts would be less than under Alternatives A and B. Noise

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
widespread noise in the FFO. Acquisition of non-federal inholdings in designated recreation areas would improve management of recreation areas and benefit the qualities of these areas. Widespread OHV cross-country access would appeal to some recreationists, but conflicts with non-motorized recreational activities would persist. Development of coal mining near WA or WSA could have localized indirect effects on the quality of primitive recreational opportunities.	widespread noise in the FFO. Acquisition of non-federal inholdings in designated recreation areas would improve management of recreation areas and benefit the qualities of these areas. Limiting OHV use to designated roads and trails would not appeal to some OHV users, but would lessen potential conflict with other non-motorized recreational uses. These competing effects could be neutralized if 100,000 acres are considered for open OHV use during development of OHV management unit plans. The extensive road system in the gas fields would continue to provide access to most areas where dispersed recreational activities occur. This alternative would benefit recreational opportunities by designating four new recreation areas (as trail corridors), and subsequently, up to 94 miles of trails may be designated for various motorized and non-motorized uses in OHV management unit plans. Development of coal mining near WA or WSA could have localized indirect effects on the quality of primitive recreational opportunities.	some protection to designated noise sensitive recreation areas. However, noise levels may still be annoying for some recreational users and uses at some locations, and diminish the quality of recreational experiences. Acquisition of non-federal inholdings in designated recreation areas would improve management of recreation areas and benefit the qualities of these areas. Limiting OHV use to designated roads and trails would not appeal to some OHV users, but would lessen potential conflict with other non-motorized recreational uses. The extensive road system in the gas fields would continue to provide access to most areas where dispersed recreational activities occur. This alternative would benefit recreational opportunities by increasing the amount of land managed for recreational values by about 42 percent in four new recreation area, and subsequently, up to 94 miles of trails may be designated for various motorized and non-motorized uses in OHV management unit plans. Development of coal mining near WA or WSA could have localized indirect effects on the quality of primitive recreational opportunities.	levels may still be annoying for some recreational users at some locations and may diminish the quality of recreational experiences. Impacts on OHV use would be similar to Alternative B. However, impacts on motorized users would be offset by designation of new trails that provide for motorized sports, and consideration of open OHV use on about 66,000 acres. Non-motorized users would also benefit from trails that provide for separated uses in order to minimize users conflicts. Development of coal mining near WA or WSA could have localized indirect effects on the quality of primitive recreational opportunities.

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
Noise			
Increased numbers of wellhead compressors associated primarily with gas operations would add to the noise levels in the region. Under Alternative A, there would be approximately 9,410 additional wellhead compressors and approximately 142 larger compressors that would add to the overall level of noise. Noise mitigation would be required on a case-by-case basis to minimize impacts to residents and other land users. The noise policy to protect nesting raptors would continue to minimize impacts.	Increased numbers of wellhead compressors associated primarily with gas operations would add to the noise levels in the region. Under Alternative B, there would be approximately 14,000 additional wellhead compressors and approximately 320 larger compressors that would add to the overall level of noise. Noise mitigation would be required on a case-by-case basis to minimize impacts to residents and other land users. The noise policy to protect nesting raptors would continue to minimize impacts.	Increased numbers of wellhead compressors associated primarily with gas operations would add to the noise levels in the region. Under Alternative C, there would be approximately 12,118 additional wellhead compressors and approximately 316 larger compressors that would add to the overall level of noise. Noise mitigation would be required by the proposed Noise Policy on approximately 206,000 acres of federal minerals within and around 88 designated boundaries. The noise policy to protect nesting raptors would continue to minimize impacts.	Increased numbers of wellhead compressors associated primarily with gas operations would add to the noise levels in the region. Under Alternative D, there would be approximately 12,200 additional wellhead compressors and approximately 319 larger compressors that would add to the overall level of noise. Noise mitigation would be required by the proposed Noise Policy within and around 16 designated boundaries and 45 areas with designated receptor points. The noise policy to protect nesting raptors would continue to minimize impacts.
Social and Economic Conditions			
Change in oil and gas production has the greatest potential to cause economic impacts. Under Alternative A, there could be a moderate loss of jobs (16 percent, or 1,210 fewer jobs per year). This could have moderate impacts on the local economy, but minimal for the region. Tax revenues could benefit from gradual increase in annual production (up to 43 percent over current levels). However, market value will continue to greatly influence tax revenues. Coal industry jobs on federal leases are expected to remain steady during the planning period but could increase if new coal leases are developed. There should be little change in tax royalties from coal, and some increase in royal-	Change in oil and gas production has the greatest potential to cause economic impacts. Under Alternative B, there could be moderate increases in oil and gas industry annual jobs. About 1,460 additional jobs would represent a 20 percent increase over current levels for this industry after 20 years, and about 3 percent increase in jobs in the tri-city area over current levels. This could have minor beneficial impacts on the local economy, but minimal for the region. Tax revenues could benefit substantially from gradual increase in annual production (almost doubling current production over 20 years). However, market value will continue to greatly influence tax revenues.	Change in oil and gas production has the greatest potential to cause economic impacts. Under Alternative C, changes in job levels in the oil and gas industry would be minor. About 500 additional jobs would represent a 6 percent increase over current levels for this industry after 20 years, and about 1 percent increase in jobs in the tri-city area. This would have minimal affect on the local and regional economy. Tax revenues could benefit substantially from gradual increase in annual production (almost doubling current production over 20 years). However, market value will continue to greatly influence tax revenues. Up to 450 coal industry jobs on federal leases could be lost if San Juan	Change in oil and gas production has the greatest potential to cause economic impacts. Under Alternative D, changes in job levels in the oil and gas industry would be minor. About 540 additional jobs would represent a 7 percent increase over current levels for this industry after 20 years, and about 1 percent increase in jobs in the tri-city area. This would have minimal affect on the local and regional economy. Tax revenues could benefit substantially from gradual increase in annual production (almost doubling current production over 20 years). However, market value will continue to greatly influence tax revenues. Coal industry jobs on federal leases are expected to remain steady during

Alternative A: Current Management (No Action)	Alternative B: Resource Production	Alternative C: Resource Conservation	Alternative D: Proposed Plan
ties from oil and gas. This could have a moderate benefit to state and local revenues.	Coal industry jobs on federal leases are expected to remain steady during the planning period but could increase if new coal leases and interests are developed. Overall, increases in royalties from expanding production of federal energy resources would benefit state and local revenues.	and La Plata mines are not expanded. Less development of federal coal reserves under this alternative could decrease royalties and slightly reduce federal mineral dispersements to New Mexico. This should be offset from increased federal oil and gas employment and production.	the planning period but could increase if new coal leases and interests are developed. Overall, increases in royalties from expanding production of federal energy resources would benefit state and local revenues.
Environmental Justice			
Losses in jobs from slower development of oil and gas resources could impact minority and low-income populations in the area that are affected by the local job market. Localized impacts from new well sites could affect dispersed minority and low-income populations, but noise impacts can be mitigated on a case-by-case basis.	Overall, local minorities and low-income populations could benefit from new jobs in energy extractive resources under this alternative. All populations groups, including minorities and low-income persons residing throughout the area, could experience dispersed impacts from gas field development, but noise impacts can be mitigated on a case-by-case basis.	Local minorities and low-income populations (particularly in the Shiprock area) could be affected by job losses in coal industry under this alternative. All populations groups, including minorities and low-income persons residing throughout the area, could experience dispersed impacts from gas field development. The noise policy would tend to reduce potential incompatible development.	Impacts would be similar to Alternative B. The noise policy would tend to reduce potential incompatible development.

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CHAPTER 1
PURPOSE AND NEED

PURPOSE AND NEED

The Farmington Proposed Resource Management Plan (RMP) Revision and Final Environmental Impact Statement (EIS) has been prepared to provide a comprehensive framework for managing the public lands and for allocating resources during the next 20 years using the principles of multiple use and sustained yield. The life of the approved RMP can be extended through maintenance and amendments, as necessary to keep the document up to date and current. The Proposed RMP Revision and Final EIS establishes and analyzes areas for limited, restricted, or exclusive uses, levels of production, allowable resource uses, resource condition objectives, program constraints, and general management direction.

This document includes both a Proposed RMP Revision (with four different management alternatives) and a Final EIS, which fulfill the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA) requirements for comprehensive land use planning for public lands. In this document, from this point forward, the Proposed RMP Revision and Final EIS will simply be referred to as the Proposed RMP/Final EIS.

Five issues are addressed in the Proposed RMP/Final EIS, including:

1. Oil and Gas Leasing and Development
2. Land Ownership Adjustments
3. Off-Highway Vehicle Use
4. Specially Designated Areas (SDA)
5. Coal Leasing Suitability Assessment

Section 3 (3A) of the Federal Coal Leasing Amendments Act of 1976 also requires comprehensive land-use planning prior to coal leasing. In addition, the statutory requirement that public lands be designated as "open", "limited", or "closed" to off-road vehicle or off-highway vehicle (ORV/OHV) use will be met upon final approval of one of the decisions proposed in this document.

This document updates management constraints on and analyzes the environmental impacts of oil and gas leasing and development in the San Juan Basin in New Mexico. Various private companies hold valid federal, state, and private leases for oil and natural gas in the planning area. These leases, many dating back to the 1950s and 1960s, have created contractual rights allowing companies to develop oil and natural gas resources. These resources provide federal minerals to meet the United States' (U.S.) growing energy needs while reducing the nation's dependence on foreign energy sources. Planned development of oil and natural gas also helps protect the financial interest of the U.S. by ensuring efficient drainage of federal minerals.

Preparation of this document is guided by Bureau of Land Management (BLM) planning regulations issued under FLPMA, environmental regulations issued under NEPA and by BLM Handbook H-1600-1 (Land Use Planning) and H-1624-1 (Planning for Fluid Mineral Resources). Plan amendments, if necessary, will keep the Approved RMP current with resource management needs and policies.

In 1988, the BLM Farmington Field Office (FFO) approved an RMP following many of the same steps that are being done now. The RMP was amended six times between 1990 and 2000. Decisions from the RMP document (RMP and amendments) that are still valid will be carried forward into this Proposed RMP/Final EIS and continue to be implemented to the extent they are not in conflict with the direction proposed in this Proposed RMP/Final EIS.

The primary purpose of the EIS portion of the Proposed RMP/Final EIS is to analyze the impacts of implementing existing and future land use decisions. The EIS portion is also needed to ". . . analyze and document the

direct, indirect, and cumulative impacts of . . . reasonably foreseeable future actions resulting from federally authorized fluid mineral activities. By law, these impacts must be analyzed before the agency makes an irreversible commitment. In the fluid minerals program, this commitment occurs at the point of lease issuance. Therefore, the Proposed RMP/Final EIS satisfies NEPA requirements for issuing fluid mineral leases" (BLM Handbook H-1624-1 B.-1).

LOCATION

The planning area, located in northwestern New Mexico, encompasses approximately 8,000,000 acres of mixed land ownership and includes all of San Juan County, most of McKinley County, western Rio Arriba County, and northwestern Sandoval County. Included within this area are approximately 2,000,000 acres of public surface estate and approximately 3,000,000 acres of subsurface minerals. The management objectives and philosophies developed in this plan would be applied only to the public surface and/or mineral estate. **Map 1-1** illustrates the planning area and shows its location within New Mexico. The population of the area is centered around the Farmington-Aztec-Bloomfield-Shiprock area to the north, the Gallup-Crownpoint area to the south, and Cuba to the east.

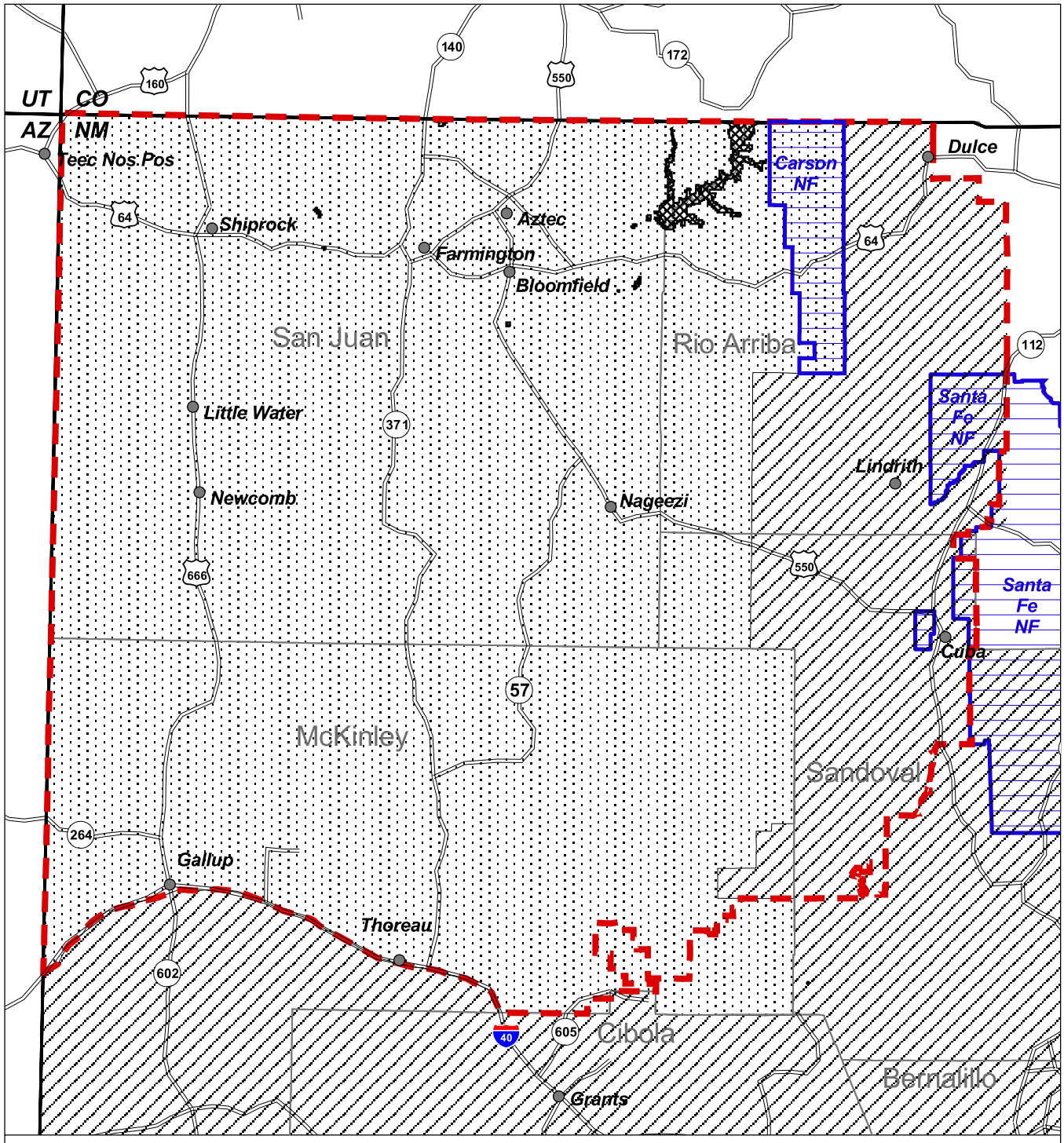
The distribution of the public lands has an important influence on land management options. The public lands are fairly well consolidated in northeastern San Juan County, while scattered, or checkerboard, ownership patterns predominate over much of the remaining planning area. The planning area includes some public land (and federal minerals) in Sandoval County that is part of the BLM Albuquerque Field Office (AFO).

SCOPE OF THE DOCUMENT

The land use planning addressed in this document pertains to public (federal) lands and federal minerals within the FFO boundaries. Additional land use planning is performed for oil and gas on U.S. Bureau of Reclamation (USBR) land. Impact analysis for future leasing and development of federal oil and gas will be addressed for the New Mexico portion of the San Juan Basin.

An Inter-Area Agreement No. NM-010-071 resulted in a change in the administration of some programs (livestock grazing and oil and gas) in the FFO and AFO. As of July 1992, the AFO assumed the responsibilities for administering (permitting) the federal minerals in the Lindrith, New Mexico area. They also assumed the permitting for oil and gas leases in the (extreme) southern portion of FFO boundaries. For this reason, the minerals (oil and gas) under the administration of the AFO are included in the Farmington Proposed RMP/Final EIS.

There are a number of surface owners that are involved in the approval (permitting) process for developing federal minerals (i.e., BLM, U.S. Forest Service [USFS], USBR, Bureau of Indian Affairs [BIA], state, private, etc.). In accordance with Title 43 Code of Federal Regulations (CFR) Subpart 1501.6, the USFS and USBR are participating as Cooperating Agencies in the preparation of this document. The USFS and USBR staff participating in this project are located in the (1) Santa Fe and Carson (Jicarilla Ranger District) National Forests (Santa Fe and Bloomfield, New Mexico) and (2) Upper Colorado Region, Western Colorado Area Office. **Map 1-2** illustrates the administrative boundaries for the lands and minerals administered by the BLM (FFO and AFO), USFS and USBR in the planning area. The amount of land and federal minerals administered by each office in the planning area is presented in **Tables 1-1 and 1-2**. Approximately half of USBR land does not overlie federal minerals.



LEGEND

- RMP/EIS Boundary
- County Boundary
- Farmington Field Office
- Albuquerque Field Office
- Bureau of Reclamation
- National Forest
- Town
- Major Road
- Interstate Highway
- U.S. Route
- State Highway

N

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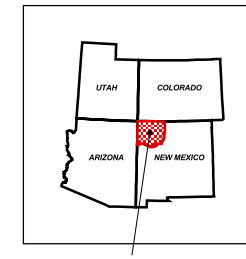
Scale in Miles



Area of Interest

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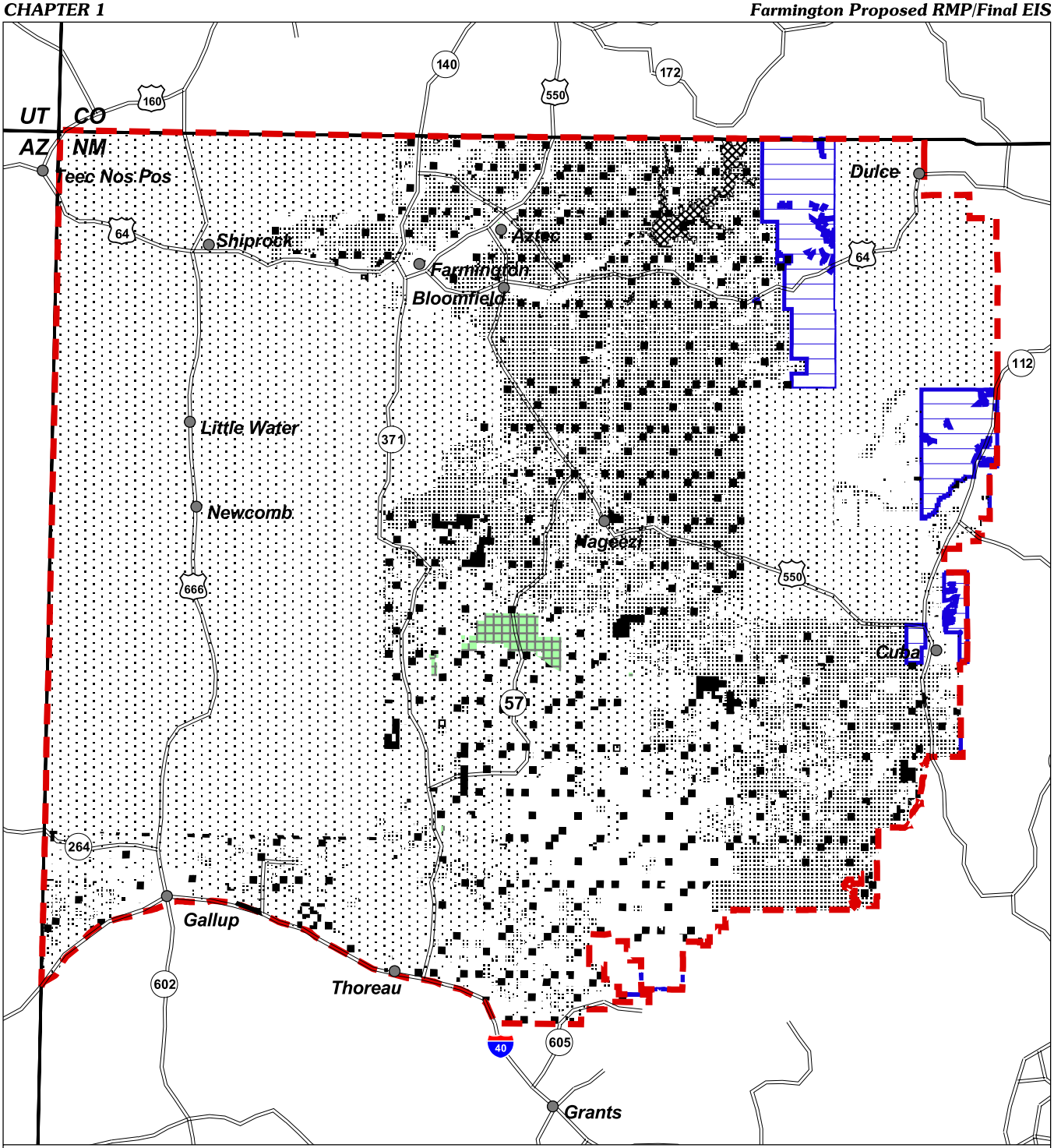
Map 1-1: General Location of the Planning Area

Source: BLM 2000



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LEGEND

- RMP/EIS Boundary

Land Ownership

- BLM
- Bureau of Reclamation
- Forest Service
- National Park Service
- Private
- State
- Tribal Land

- Town
- Major Road
- Interstate Highway
- U.S. Route
- State Highway

N

15 0 15

Scale in Miles

Source: BLM 2002

Map 1-2: Land Ownership in the Planning Area

Table 1-1. Surface Acres in the Planning Area

Cooperating Land Agencies	San Juan County	McKinley County	Rio Arriba County	Sandoval County	Total: Surface Acres by Owner
FFO BLM	856,593	163,580	322,431	72,682	1,415,286
AFO BLM	0	40,035	22,895	314,225	377,155
USFS	0	13	23,4301	22,558	256,872
USBR	15,982	0	15,053	0	31,035
Subtotal: Surface Acres by County	**872,575**	**203,628**	**594,680**	**409,465**	**2,080,348**
Other Land Agencies					
DOD	0	259	0	0	259
Tribal Lands	2,323,806	1,616,225	612,141	222,250	4,774,422
National Park Service	31,301	2,904	0	0	34,205
State	122,326	135,994	43,476	32,879	334,675
Private	234,460	512,522	199,499	103,719	1,050,200
Subtotal: Surface Acres by County	**2,711,893**	**2,267,904**	**855,116**	**358,848**	**6,193,761**
Total: Surface Acres	**3,584,468**	**2,471,532**	**1,449,796**	**768,313**	**8,274,109**

Source: GIS data derived from BLM FFO and SO coverages.

Table 1-2. Acres Overlying Federal Minerals in the Planning Area

Cooperating Land Agencies	San Juan County	McKinley County	Rio Arriba County	Sandoval County	Total: Surface Acres Overlying Federal Minerals by Owner
FFO BLM	843,574	149,724	315,843	69,561	1,378,702
AFO BLM	0	40,035	22,759	312,654	375,448
USFS	0	13	234,301	22,558	356,872
USBR	7,984	0	7,891	0	15,875
Subtotal: Surface Acres Overlying Federal Minerals by County	**851,558**	**189,772**	**580,794**	**404,773**	**2,026,897**
Other Land Agencies					
DOD	0	259	0	0	259
Tribal Lands	153,309	211,499	1,166	25,514	391,488
National Park Service	17,139	2,351	0	0	19,490
State	19,325	15,206	1,798	6,379	42,708
Private	142,338	119,074	195,819	82,620	539,851
Subtotal: Surface Acres Overlying Federal Minerals by County	**332,111**	**348,389**	**198,783**	**114,513**	**993,796**
Total: Surface Acres Overlying Federal Minerals	**1,183,669**	**538,161**	**779,577**	**519,286**	**3,020,693**

Source: GIS data derived from BLM FFO and SO coverages.

The Proposed RMP/Final EIS addresses the impacts of federal oil and gas leasing and development regardless of the surface ownership (i.e., state, tribal and private). When federal oil and gas are leased and developed on lands administered by other federal agencies, the BLM contacts the agency for consent to lease, specific surface protection lease stipulations, and mitigation requirements for field operations.

The BLM issues oil and gas leases where federal minerals underlie the Indian-owned surface. The Indian surface owner (BIA or tribe) is contacted for concurrence and to identify specific surface protection stipulations, if any, before the lease is issued.

Management constraints prescribed for federal oil and gas leasing and development on split estate apply only to mineral development activities permitted by the BLM. On such mineral development, the BLM provides surface and subsurface constraints that ensure the environment is protected. These constraints do not restrict the activities of private landowners. The amount of land and federal minerals administered by other surface owners is presented in Table 1-1.

Oil and gas leases for Indian mineral estate are issued by the BIA. The decision to lease or enter into a joint venture or agreement to develop Indian oil and gas is solely that of the BIA or the tribe and is not considered in this document.

THE PLANNING PROCESS

The BLM resource management planning process consists (primarily) of nine basic steps. This process requires an interdisciplinary team of resource specialists. Staff from the FFO and AFO, USFS, and USBR comprise the interdisciplinary team preparing this Proposed RMP/Final EIS. The steps described in BLM's planning regulations and handbook (H-1600-1) and followed in preparing this Proposed RMP/Final EIS are summarized below and graphically displayed in **Figure 1-1**. Publication of this document represents completion of Steps 1 through 7.

Step 1. Identification of Issues

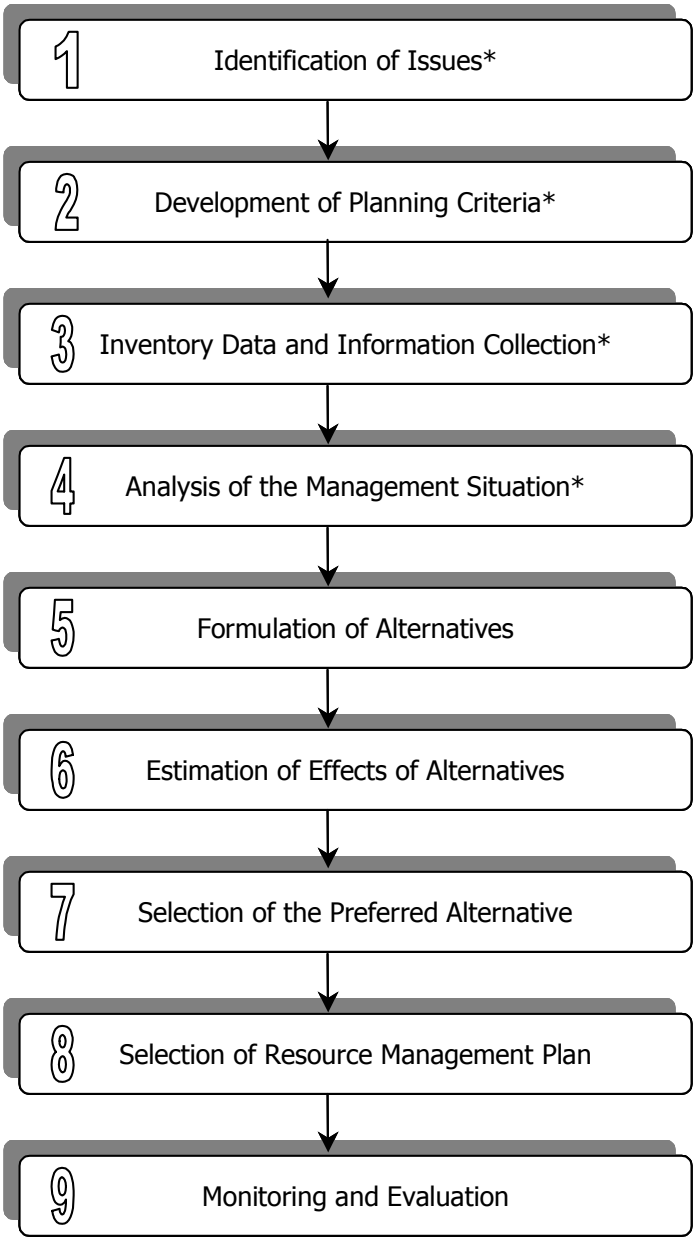
The first step in the planning process is intended to identify resource management problems or conflicts that can be resolved through the planning process. These problems or conflicts (issues) were identified by the BLM and other agency personnel as well as members of the public. Five issues were identified for this planning effort and are considered and discussed in detail in this document. Valid Existing Decisions, from BLM's previous land use planning documents, are also considered in this document. Valid Existing Decisions, with the various ways of dealing with the issues, will comprise the four different management alternatives.

Step 2. Development of Planning Criteria

During this step, preliminary decisions are made regarding the kinds of information needed to clarify the issues, the kinds of alternatives to be developed, and the factors to be considered in evaluating alternatives and selecting a preferred RMP. As each issue was identified, a list of planning criteria was developed to help guide the resolution of that issue. Valid Existing Decisions were also identified during this part of the planning process and are included in the alternatives presented in Chapter 2.

Step 3. Inventory Data and Information Collection

This step involves the collection of various kinds of environmental, social, economic, resource, and institutional data needed for completion of the process. This step can include detailed field studies, talking to individuals or groups who may have information, literature studies, or consultation with appropriate professionals. In most cases, this process is limited to inventories needed to address the issues.



** These steps may be revisited throughout the planning process and may overlap other steps.*

Figure 1-1. Steps in the RMP/EIS Planning Process

Step 4. Management Situation Analysis

This step calls for deliberate assessment of the current situation. It includes a description of current BLM management guidance, a discussion of existing problems and opportunities for solving them, and a consolidation of existing data needed to analyze and resolve the identified issues. The end result of this step was the development of an unpublished companion document known as the Management Situation Analysis (MSA). Chapter 3 of that document was used to develop the Continuing Management Guidance section of the Proposed RMP/Final EIS. MSA Chapter 2 was used as a basis for compiling the Affected Environment chapter of the RMP/EIS. Copies of the MSA are available for review in the FFO.

Step 5. Formulation of Alternatives

During this step, several complete, reasonable resource management alternatives are prepared, including one for no action and others that strive to resolve the issues while emphasizing differing amounts of resource production or protection. This important section of the RMP/EIS has been incorporated into Chapter 2.

Step 6. Estimation of Effects of Alternatives

The physical, biological, economic, and social effects of implementing each alternative are estimated in order to allow for a comparative evaluation of impacts. This step, known as the Environmental Consequences chapter, is found in Chapter 4 in this Proposed RMP/Final EIS.

Step 7. Selection of the Preferred Alternative

Based on the information generated during Step 6, the Field Manager identifies a preferred alternative. The Draft RMP/EIS document is then printed and distributed for public review. There was a 90-day public review and comment period for the Draft RMP/EIS.

Step 8. Selection of the RMP

Based on the results of public review and comment, the Field Manager will develop the Proposed RMP and publish it along with the Final EIS. It is important to note the revised RMP will replace all the previous (RMP and Resource Management Plan Amendment [RMPA]) planning documents prepared for the FFO. A final decision is made after a 60-day Governor's Consistency Review and a 30-day public protest period on the Proposed RMP/Final EIS are completed.

Step 9. Monitoring and Evaluation

This step involves the collection and analysis of long-term resource condition and trend data to determine the effectiveness of the plan in resolving the identified issues and implementation of all decisions, and to ensure that implementation of the plan is achieving the desired results. Monitoring continues from the time the new RMP is adopted until changing conditions require amendments or a revision of the whole plan or any portion of it.

PLANNING ISSUES

The BLM planning regulations (43 CFR 1600) equate land use planning with problem solving and issue resolution. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands and resources. Not all problems are capable of resolution through land use planning—some may require changes in policy, budget, or law. Issue-driven planning, which is the approach used in RMPs, means that an emphasis is placed on addressing those aspects of current management believed to be at issue. The FFO's previous land use plans will be replaced by this document. Existing decisions are reviewed for their relevance and use in the continued management of resource uses.

Several problems brought up during the issue identification process are not included as separate issues in the Proposed RMP/Final EIS. Some of these are resolvable within Continuing Management Guidance; others, such as the protection of significant cultural resources, would be resolved with the identification of SDAs. Those aspects of current management that are **not** issues are covered in Chapter 2, under Continuing Management Guidance.

The five issues addressed in this Proposed RMP/Final EIS were identified based on interagency consultation, state government input, cooperating agency input, review by BLM staff and managers, and through extensive discussions and public meetings with individuals, industry representatives, and special interest groups.

PLANNING CRITERIA

Planning criteria are the standards, rules, and measures used for data collection and alternative formulations, and have guided draft plan preparation. Planning criteria are taken from appropriate laws and regulations, guidance found in BLM Manuals and directives, and concerns expressed in meetings and consultations, both with the public and with other agencies. Four criteria were developed for the RMP/EIS and will guide the resolution of the issues addressed in this document. The criteria are listed below.

1. Actions must comply with laws, regulations, and executive orders.
2. Actions must be reasonable and achievable.
3. Actions will be considered for their long-term benefits to the public in relation to short-term benefits.
4. Actions will be considered in an interdisciplinary approach.

The following (five) planning issues were identified for resolution in this Proposed RMP/Final EIS. The criteria that were (1) developed and used and (2) are still applicable to the issues described in previous planning documents, are included as part of the text in each issue.

The following issues relate to planning within the FFO boundaries.

Issue #1: Oil and Gas Leasing and Development

The following issues and their associated planning criteria have been identified for resolution in the RMP/EIS.

Item 1. Determine if there is additional federal mineral estate that should be considered for oil and gas leasing.

Item 2. Based on a Reasonable Foreseeable Development Scenario (RFDS), determine the effect of developing oil and gas leases in designated and/or proposed SDAs and other areas of concern.

Item 3. Determine the impact of management constraints [lease stipulations and Conditions of Approval (COA)] on oil and gas development.

Item 4. Identify the cumulative impacts of oil and gas development.

Item 5. Determine if existing management constraints on oil and gas leasing and development in SDAs would achieve the greatest degree of protection of resource values.

Item 6. Identify management constraints necessary to protect wildlife, fragile soils, water resources, and other resource values.

Item 7. Clarify the stipulations applied at the lease issuance stage and COAs applied before development activities begin.

The planning criteria for Items 1 through 3 are concerned with identifying (1) oil and gas resource occurrence potential, (2) the amount of leased acreage, producing and non-producing, (3) areas where development is occurring or is projected to occur, and (4) areas where leasing and/or development is occurring or could occur with management constraints.

Criteria for Item 4 are based on identifying (1) the area where existing (and new) leases are issued under standard terms and conditions (STC), (2) the amount of oil and gas acreage

that would not be available for future leasing and development, and (3) the least restrictive management constraints on new lease development that would protect resource values and uses. The effects of future development of existing and new leases have been considered during impact identification and analyses in this Proposed RMP/Final EIS.

The criteria used to determine the impacts on oil and gas resources are similar to those developed for determining the amount of oil and gas acreage available for leasing and development. These criteria are based primarily on identifying (1) the amount of oil and gas acreage that would not be available for leasing and development, (2) whether the type and extent of management constraints would protect resource values and uses, and (3) the effects of management constraints on future oil and gas development and production.

The primary criteria for Items 5 and 6 are based on determining (1) if continued management will adequately protect and preserve SDAs and other resource values, and (2) the implementability of management prescriptions and objectives in areas with current and future development. An additional criterion to consider is the necessity of applying stipulations to new leases in areas where existing leases may expire or terminate, particularly in SDAs with critical resource values.

BLM resource specialists have identified specific lease stipulations, COAs, and the area(s) where they are required for future leasing and development. Because stipulations are applied at the leasing stage, they are general and apply to the entire lease. COAs, which are applied at the Application for Permits to Drill (APD) stage of lease development, apply to a particular well location. The COAs attached to each APD permit will be determined primarily by the proposed location of each well. The COAs usually considered and attached to APDs are listed in Appendix G.

Issue #2: Land Ownership Adjustments

Small, scattered, and isolated tracts are often expensive or difficult to manage, and normally contribute little to the public land resource. Some of these parcels, which are close to urban areas, are also in demand for community expansion. Exchange or disposal of these tracts often improves management efficiency by focusing efforts on larger tracts where the BLM has more opportunities to meet its goals and objectives.

The basic concept of land ownership adjustments is to consolidate administrative boundaries to create a more efficient and economical land ownership pattern. Areas for retention and disposal are identified under each of the four alternatives in Chapter 2. Parcels identified for disposal after approval of the new RMP could be considered for disposal on a case-by-case basis. Where the parcels are to be sold, the following criteria established in Section 203 of FLPMA must be met:

(1) such tract because of its location or other characteristics is difficult and uneconomical to manage as part of the public lands, and is not suitable for management by another federal department or agency; or

(2) such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or

(3) disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in federal ownership.

If a parcel is to be disposed of through exchange, Section 206 of FLPMA requires that the action would serve the public interest. For example, the action would result in better federal land management, satisfy important state or local needs, or would help accomplish

management objectives defined in this plan (e.g., inholding acquisition, trespass abatement, access needs, resource improvement, etc.). Unlimited exchange opportunities may be entertained to consolidate federal and non-federal lands within the retention areas.

To reduce the impacts of split estate where practical, the BLM may pursue mineral exchanges as authorized by FLPMA Sec. 206. Nothing in this Proposed RMP/Final EIS is intended to prohibit mineral exchanges conducted under the BLM mineral exchange policy.

Lands may be transferred out of federal ownership by any of a wide variety of exchange or disposal authorities as long as all applicable sale or exchange criteria are met and there are no major conflicts with other resource management programs, such as oil and gas. Lands in the FFO disposal area can be utilized by other BLM field offices within the State of New Mexico to provide a pool of lands for exchange purposes. There will be no title transfers of public lands within any SDA unless the disposal would enhance management of the area. In general, attempts should be made to acquire non-federal inholdings in SDAs if it is important to the management of the area.

Management of the public lands in the southern portion of the area administered by the FFO has always been difficult due to the checkerboard land ownership pattern. Land exchanges have been completed in the past to resolve unauthorized occupancies and to acquire other lands with greater public benefits. The split estate that has resulted from these exchanges has made it more difficult to develop the retained federal minerals. This will be considered during any future land disposals.

The criteria developed during the planning process provides for the following:

Retention Areas

Ownership will remain with the BLM over the long term. Exchanges for consolidating ownership will be considered and may include conveying retention lands to accomplish a desirable exchange. Recreation and Public Purposes (R&PP) applications will be considered. Sale proposals may only be considered in (very) limited instances for parcels identified in Appendix H or on a case-by-case basis.

Disposal Areas

These lands may pass out of federal ownership over the long term. Priority for disposal would be given to exchanges; however, other forms of land transfers, such as those listed in the Chapter 2 Continuing Management Guidance section, would also be considered. Further exchanges with Indian tribes would be considered after problems are resolved in the development of the federal minerals by operators and/or lessees who hold the existing or future mineral (oil and gas) leases.

Acquisitions

Inholdings (non-BLM) will be designated for acquisition if important to proper management of the area. Ownership of public land will be maintained by the BLM over the long term.

To resolve these issues, answers are needed to the following question:

On which lands should ownership be adjusted (exchanged, disposed, and/or acquired) to facilitate more efficient management?

Issue #3: Off-Highway Vehicle Use

This issue addresses OHV designations. It is BLM policy to designate all public lands in its jurisdiction as "open", "limited," or "closed" to motor vehicle use.

Motorized vehicles will be discussed in terms of design and capabilities of OHVs. ORVs are vehicles designed for and capable of travel over natural terrain and water. OHVs are mainly designed for travel on unpaved roads or trails and not particularly for off-road use. The term OHV will be used in the rest of the

document when referring to either OHV or ORV.

Public lands currently or historically used by OHV user groups may be designated "open" or "limited" for intensive OHV use if there are no significant resource protection needs, user conflicts, or public safety concerns.

To resolve this issue, answers are needed to the following questions:

What public lands should be designated as "open," "limited," or "closed" to OHV use?

What special use areas should be designated for OHV use to meet specific user group and general public demand?

What OHV designations (and areas) would result in minimum conflicts between people and resources?

Issue #4: Specially Designated Areas

The FFO boundaries contain certain areas where special management could protect important natural, cultural, recreational, paleontological, scenic, mineral, botanical, wildlife, watershed, and wilderness values (see Appendix B for a list of these areas). Special management could be achieved through identification of a variety of designations. Past planning decisions concerning special management designations will be carried forward unless additional information requires further analysis.

To resolve this issue, answers are needed to the following questions:

What areas and resource values should be identified for special management attention?

How should such areas and resource values be managed?

Issue #5: Coal Leasing Suitability Assessment

Portions of the field office boundaries are potentially valuable for the development of coal. The demand to develop this resource fluctuates almost annually due to changing demands for electric power, trends in alternate fuel costs, and availability. Recent interest has been expressed by coal companies for leasing additional coal (tracts) to meet current and future demands for power generation in the Four Corners. Currently, over 33,000 acres of BLM-administered subsurface are under Preference Right Lease Applications (PRLA). In addition, 60,698 acres were designated as competitive coal lease tracts in 1988 and 4,480 acres were determined to be suitable for leasing (by application) in 1998.

Not all public lands are available for coal exploration or leasing. There is a rigorous land use planning process through which all public lands are reviewed for potential coal leasing. The requirements for the land use plan include multiple use, sustained yield, protection of critical environmental areas, applications of specific unsuitability criteria, and coordination with other government agencies. There are four specific land use screening steps that are unique to developing land use planning decisions for federal coal lands. These are: (1) Identification of coal with potential for development, (2) Determination if the lands are unsuitable for coal development (3) Consideration of multiple use conflicts, and (4) Surface owner consultation. The purpose of the coal screening part of the land use planning process (43 CFR 3420.1-4) is to identify those federal lands that are acceptable for further consideration for coal leasing and development. During this process, the unsuitability criteria must be applied.

Coal development potential would be addressed when data are available to estimate coal reserves.

To resolve this issue, answers are needed to the following questions:

After application of the four land use planning screens for coal, which tracts should be carried forward for further consideration for coal leasing?

Are there any new areas which should be considered acceptable for further consideration for coal leasing?